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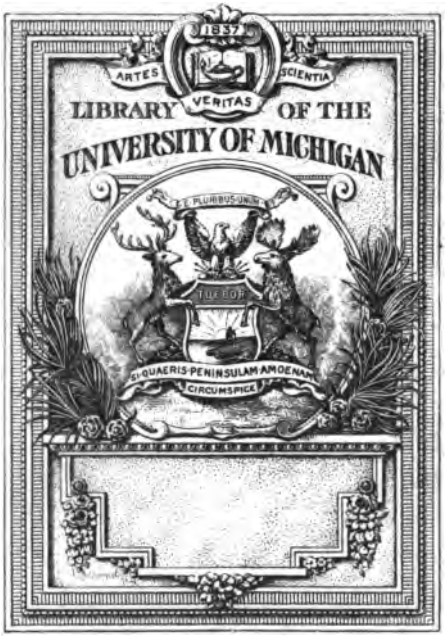
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A Part of

THE

RUDIMENTS

OF

THE ART OF LOGIC;

LITERALLY TRANSLATED

FROM THE TEXT OF ALDRICH,

WITH EXPLANATORY NOTES.

SEVENTH EDITION.

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THE

RUDIMENTS OF LOGIC.

CHAP. I.

Of Simple Terms.

SECT. I. *The* OPERATIONS *of the mind are enumerated, defined, and considered metaphysically:* apprehension, judgment, discourse. *Apprehension is either* complex *or* incomplex; *judgment either* affirmative *or* negative; *the difference between judgment and complex apprehension is explained, and elucidated by an example: each of the operations of the mind is liable to some defect, to which a name is given; hence is deduced a definition of* LOGIC.—SECT. II. *The necessity of representing our ideas by some signs is shewn; hence the origin of* WORDS: *words are defined; they are of three different sorts,* simple, complex, decomplex, *corresponding to the operations of the mind: in giving the reasons for adopting these last three expressions, we are brought to consider every argument as resolvable into three* PROPOSITIONS, *and every proposition into three words, and thence we deduce the most important definitions of* subject, predicate, *and* copula.—SECT. III. Categorematic *words are de-*

fined, as also the syncategorematic *and the* mixt: *what is meant by a verb, in logic, shewn: how to consider all grammatical verbs shewn: the* LOGICAL NOUN *is defined and divided.*—SECT. IV. ABSTRACTION *considered: the existence of an* universal essence *proved; it is represented by* predicables *or* universals.—SECT. V. UNIVERSALS *or* PREDICABLES *proved to be only five in number,* genus, difference, species, property, accident, *each of which is defined: it is concluded, that* genus *is predicated of different species;* species *of different individuals;* difference, property, *and* accident, *both of different species and different individuals: it is concluded also, that* genus *is a logical whole, and* species *a metaphysical whole, and, consequently, that difference divides the genus and constitutes the species.*—SECT. VI. GENUS *is of two kinds,* highest *and* subaltern; SPECIES *is either* subaltern *or* lowest; *what is meant by cognate genera explained: concluded, that* DIFFERENCE *is of two kinds,* specific *and* generic; PROPERTY, *likewise, is either* specific *or* generic; ACCIDENT *is* separable *or* inseparable.—SECT. VII. DIVISION, *its definition, its analogy to distribution of the whole into its parts shewn; hence are derived the rules for dividing properly.*—SECT. VIII. DEFINITION *is defined; its different kinds shewn; is either* nominal, accidental, logical, *or* physical; its *rules are given and proved.*

§ 1. Of the Operations of the Mind.

The operations of the mind are in all three: 1. *Simple apprehension*; 2. *Judgment*; 3. *Discourse.*

1. *Simple apprehension* is the bare intellectual conception of a thing, in some respects similar to sensitive perception; for as the *image* of a thing is in the eye, so is the idea in the mind: and it is either *incomplex* or *complex.*[a]

Simple incomplex apprehension is that of one object, as, *of a pen;* or also of several, confusedly,[b] as *pens, hands,* etc. *Simple complex apprehension* is that of several objects, but with a certain order and reference, as, of *a pen in the hand.*

2. *Judgment* is that by which the mind not only perceives two objects, but, as it were, sitting on a tribunal, expressly pronounces within itself, that they agree with or differ from each other.

[a] It was formerly supposed, that, by simple apprehension, the idea of an object was imprinted on the mind, in the same manner as, by the faculty of vision, its image is reflected on the retina of the eye. Hence apprehension has also been sometimes termed *perception.*

[b] Confusedly means taken without any order or grammatical reference to each other.

For judgment is either *affirmative*, which is also called *composition*; or *negative*, which is also called *division*.[c]

Moreover, as well the particle *is*, which by affirming expresses agreement, as *is not*, which by denying expresses disagreement, is called *copula*: (just as grammar also has its *disjunctive conjunctions*:) and, by determining this copula, judgment differs from complex apprehension.

For instance; if a person shall have said that *an equilateral triangle is equiangular*, I can, by simple *incomplex* apprehension, understand what each separate word of this sentence signifies; but by *complex*, what the *whole* sentence means. Now, by the light of nature itself I know "that any two objects must either agree or not agree with each other," and therefore that they must be joined by one or other of the copulas; nevertheless I have not yet made a judgment, until I shall have determined this copula, that is to say, settled within myself that these two objects, *equilateral triangle*,

[c] Affirmative judgment (which is also termed composition) is that which expresses the *agreement* of the two objects which were compared. Negative judgment, or division, expresses their mutual disagreement. *Huyshe's* Treatise on Logic.

and *equiangular triangle,* ought to be united by this copula *is,* and by the other, *is not.*[d]

3. *Discourse*[e] is the motion or progress of the mind from one judgment to another; which is also termed *ratiocination;* and is signified by an illative copula, such as *therefore,* or some other similar: for instance,

> He who is out of the power of fortune is happy;
> The wise man is out of the power of fortune;
> *Therefore,* The wise man is happy.

To each of the operations is incident its own peculiar defect. To apprehension, *indistinctness*; to judgment, *falsity;* to discourse, *an erroneous mode of inferring.*

Which, when philosophers observed, and had devised proper remedies for them, they reduced their precepts into one body, and denominated the science of them *logic,* or *the art of reasoning.*

Logic, therefore, is "an instrumental art,[f]

[d] It must be observed, that the verb *to be,* in the present tense of the indicative mood, alone constitutes the cupola. *Huyshe.*

[e] Discourse, or *reasoning,* has been frequently confounded with *reason,* which should be guarded against. *Huyshe.*

[f] An *instrumental* art is an art which is conducive as means to some end. And the end or object of logic is to *guide* and *direct* the mind in the acquisition of knowlege.

directing the mind in the knowledge of things:" and its parts are three, according to the operations of the mind which it directs: 1. *On simple apprehension;* 2. *On judgment;* 3. *On discourse.*

§ 2. Of Words.

But, since in teaching and disputing, neither a thing itself, nor the conception of which it is the subject, can conveniently be brought forward; it is necessary to substitute vicarious signs for both; by teaching the proper use of which, logic at the same time instructs the mind how to operate properly.

The signs of this kind, received amongst men, are *words;* for *a word* is "the sign of a thing or conception, holding by appointment the place of that thing or conception;"[g] and, by its signification, it first makes known the conception, and then acts as a substitute for the thing. But I say, *by appointment*; because

[g] Words are arbitrary signs of our conceptions, and of the objects of those conceptions: hence natural sounds, not being arbitrary, (i.e. formed *ex instituto,*) are not regarded as words. *Huyshe.*

inarticulate sounds, and such as nature spontaneously suggests, are not thought to belong to the art of logic.

Now that which expresses simple apprehension is a *simple word;* that which expresses judgment is a *complex word;* that which expresses discourse is a *decomplex word.* For every argument is resolvable into three *propositions* or sentences, and every proposition includes in sense always, though not always in number, three words; 1. the *subject*, or that of which some other thing is said; 2. the *predicate*, or that which is said: 3. the *copula*, which comes between both; for the subject and predicate, so far as the sense goes, are always extremes, and are therefore called the *terms of the proposition.*

And hence, therefore, the first part of logic is said to treat of *simple terms;* that is to say, simple words, which express simple apprehension: the second, concerning proposition, or the complex word, which expresses judgment: and the third, concerning *syllogism*, or the decomplex word, by which argumentation or discourse is expressed.

§ 3. Of the Divisions of Nouns.

The first part of logic, therefore, treats of *simple terms;* that is to say, words of such a kind as can alone be the subject or predicate in a proposition;[h] and which are therefore called *categorematic*, as *man*, *stone*. Some words are only *syncategorematic*, or accompanying parts of the subject or predicate,[i] as *all*, *no one;* some also are *mixed*, as *always*, that is, *at all times*; *none*, that is *no man: he runs*, that is, *he is running:* in which way also every grammatical verb can be resolved.

The *logical* (or *pure*) *verb*, therefore, is nothing but the copula; all others are unions of the participle and the copula.

The *logical noun* is a simple term significative,

[h] A word which, unaccompanied by any other, may become the predicate or subject of a proposition, is a simple term, or a categorematic word. Thus in the propositions, *Man is a mortal being; the office of government is to render the people happy;* the words *man, a mortal being, the office of government, to render the people happy*, are said to be simple terms, for each is capable of being the subject or predicate of a proposition.

[i] No syncategorematic word can *alone* be the predicate or subject of a proposition. *Huyshe.*

without time. For, from what has been aforesaid, a *simple term* is the same as an articulate word, in the nominative case, and by appointment significative; but words in the oblique[k] cases are syncategorematic.

There are many divisions of nouns, of which three are sufficient for the present purpose; but, on account of their manifold utility, I shall add five others.

1. The *singular* noun is that which signifies one individual thing: as *Socrates*. The *common* noun is that which may signify many things, and apply to each of them separately, as, *man*.[l]

2. The *definite* noun is that which has not the participle *not*: the *indefinite* noun is that to which it is prefixed, as *not a man*, that is, every thing except a man: whence the particle *not* is termed *indefinitant*.

[k] Oblique cases are all except the nominative: and since the nominative case alone can be a simple term, hence it must follow, that all the other cases (that is, the *oblique* cases) of a word must be syncategorematic.

[l] "Every thing which has actual existence is represented by a *singular* noun: a *common* noun does not represent a thing which has actual existence, but an idea or nature common to many individuals; i. e. that idea which is the result of the abstractive faculty." *Huyshe.*

3. The *positive* noun is that which signifies a thing as it were present: the *privative* noun is that which declares the absence of a thing from a subject *capable* of possessing it: the *negative* noun is that which declares the absence of a thing from a subject *incapable* of possessing it. Thus, *man is a positive* word; *blind* is said of a man *privatively; blind*, or rather *not seeing*, is said of a stone *negatively*.

4. The *univocal* noun is that whose *one* signification is equally applicable to many, as *man*: the *equivocal*[m] noun is that whose *different* significations are equally applicable to many, as the Latin word *Gallus* (a *bird* or, *a native of Gaul*:) the *analogous* noun is that whose *one* signification is unequally applicable to many, as *foot*.

5. The *concrete* noun is that which expresses a thing as it were free by its own nature, but yet connected with some subject, as *just*: the *abstract* noun is that which expresses a thing as it were by its nature connected with some

[m] The equivocal noun is a defect in a language, and fallacy frequently results from using such nouns: these fallacies are termed *fallacia equivocationis*. *Whately's* Elements of Logic.

subject but nevertheless independent of it, as *justice.*

6. The *absolute* noun is that which signifies a thing taken by itself: *relative* nouns are those whose conceptions are mutually implied in each other, as *father* and *son.*

7. Agreeing nouns are those which may at the same time be said of the same thing, as *learned* and *pious: repugnant*, or *opposite* nouns, are those which cannot be said of the same thing at the same time, as *white* and *black.*

8. A noun of the *first intention* is a word put in its common use: a noun of the *second intention* is a word of art, which being taken from the common language, philosophy stamps anew and regulates.

§ 4. Of the Formation of Predicables.

A *singular* word is also called *individuum*, and the thing signified by it is *one in number;* for every thing which may be called one is not singular; but many things, which are mutually similar, so far as that similarity goes, are considered as one; for they are called by one and the same name, which the definition of the word does not allow, unless there be virtually, or at

least there may be conceived to be, some one and the same nature which may answer to this name.

Such a nature the mind discovers, when, in contemplating many singulars, it *abstracts* from their differences; that is, regards in things those only which agree, neglecting all those in which they differ, and thus takes away all foundation of difference, except in number.[n] Wherefore, since this nature thus abstracted remains independent of every difference of the singulars, it is allowable to be conceived, not as different in each, but as the same in all:[o] and so it may be conceived to be a certain *universal essence*, or *one being existing in many*: and its proper sign will be a noun *common, univocal, of the second intention:* in one word, a *predicable*, or word fit to be predicated: that is, to be univocally said of many.

[n] Thus, when we contemplate in our mind *a tree*, we regard not whether it is *a laurel* or *a plane*, *lofty* or *short*, *fruitful* or *sterile*.

[o] Hence, (to use the preceding example,) it is evident, that the idea *tree* is applicable to a *laurel* or to a *plane*, to a *lofty* tree or to a *low* one, to a *fruit* tree or to *one of the forest:* it may therefore be regarded as one nature common to all individual trees.

§ 5. Of the Species of Predicables.

The heads of predicables may be formed and defined in the following manner. Whatever can be found in many things, is either their whole essence,[p] or a part of it, or something joined to the essence. Wherefore universals or (what comes to the same) predicables are five, and not more; namely, *genus*, *species*, *difference*, *property*, and *accident*.

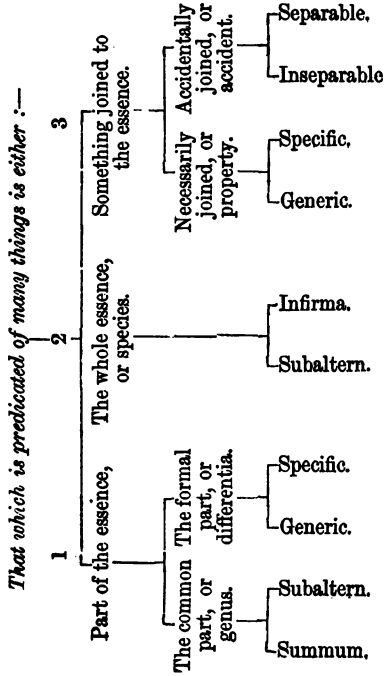
For, 1st. *Genus*, is that which is predicated of many things, as the *material* or common part of their essence, as *animal*. 2dly. *Difference* is that which is predicated of many things, as the formal or characteristic part of their essence, as *rational*. 3dly. *Species*, that which is predicated of many things, as the whole of their essence, as *man*. 4thly. *Property*, that which is predicated of many things, as necessarily joined to their essence, as *risible*. 5thly. *Accident*, that which is predicated of many things,

[p] By essence is understood the nature of any thing, whether it be actually existing or not. "The essence of anything is 'that which makes it to be what it is.' If, therefore, it be deprived of its essence, or any part of it, it no longer exists as it was This essence is not really existing, but it is an imaginary nature." *Huyshe.*

as contingently joined to their essence, as *white*, *black*, *to be sitting*.[q]

Whence it is manifest, 1st. That a *predicable* is said of those things *in which an universal nature exists*. And therefore that *genus*, which

[q] The following table will represent, at one view, the different heads of predicables :—



is the common part of many essences or species, is said of things *differing in species*, that is, is said of the different species into which it enters; as *animal* is said of *man* and *brute*. But that *species* is said of things *differing in number*, that is, of those different individuals, each of which has an essence signified by the word expressive of the species; thus *man* is said of *Socrates* and *Plato*, and of all in whom human nature exists. But the other predicables (as will be shewn hereafter) are, for the same reason, said of things differing as well in species as in number.

And, note, that according to the usual mode of speaking, genus and species are *predicated in quid;* (that is, answer the question made by *quid;*) difference is *predicated in quale quid;* property and accident *in quale*.

Whence it is easy to deduce the common definitions of the predicables. For *genus* is defined, *Prædicable quod prædicatur de pluribus specie differentibus in quid*. Difference, *quod de pluribus specie vel numero differentibus in quale quid*, etc.

It is manifest, 2dly, That genus is a certain

whole, that is, a *logical whole*, or a whole as far as speaking is concerned; inasmuch as it contains (that is, embraces in extent of predication) species as its *subjective parts*. It is also manifest that *species* is a *whole*, that is, a *metaphysical whole*, or a whole as far as conception goes; inasmuch as it contains (that is, requires for its own perfection) genus as its *essential part*[r]. Hence difference added to genus is said to *divide* that *genus*, inasmuch as it renders distinct the thing signified by it; and to *constitute the species*, inasmuch as it completes its essence.

[r] For the understanding of this paragraph is required a perfect knowledge of the difference between a *logical* and a *metaphysical* whole: this is explained in the text [*logicum*, sive in modo loquendi; *metaphysicum*, sive in modo concipiendi.] Thus *metal* may be regarded as a *totum logicum*, since it may be predicated or said of *gold*, *platina*, *silver*, etc. each of which will consequently be *partes logicæ*: yet my mind cannot contemplate the idea of gold without regarding the idea of *metal* as one of its essential parts, and as absolutely, though not alone, indispensable to its existence. I say, not alone; for when my mind contemplates the idea *gold*, it contemplates several others as indispensably necessary to its existence, such are those of *weight*, *malleability*, *colour*, etc. *Gold*, therefore, and by a similar mode of reasoning, *platina*, *silver*, etc. must be regarded as *tota metaphysica*, while *metal* will be a *pars metaphysica*.

§ 6. Of the Species of Predicables.

Genus is either highest or *subaltern:* species also is distinguished into *subaltern* and *lowest.* The highest genus is that which cannot become the subject of any *cognate genus;* the *lowest species* is that which may become the subject of every cognate genus: subaltern genus or species is that which may become both the subject of a cognate genus, and the predicate of a cognate species. Now I call *cognate,* those genera and species which are obtained by perpetual abstraction from the same individuals; as *man, animal living being, body, substance*: which are obtained from *Socrates, Plato,* etc. by repeatedly rejecting the differences.

Wherefore, 1st. *Difference*[8] is either *generic,*

[8] *Difference,* as we proved in the last period of the preceding section, constitutes the species; but in the foregoing paragraph we have seen, that there are two sorts of species, the *subaltern* and the *lowest:* there will consequently be also two sorts of difference; 1st. That which constitutes subaltern species; 2nd. That which constitutes lowest species. Of the first kind will be *sensible,* which constitutes the subaltern species of animal, and may be predicated of *man, brute,* etc., of the second kind is *rational,* which constitutes the lowest species, *man,* and can be predicated or said only of different individuals, *Plato, Socrates, Paul, Peter, John, Richard,* etc.

THE TREE OF PORPHYRUS.

- Substance,
  - Incorporeal,
  - Corporeal,
    - Inanimate,
    - Animate,
      - Insensitive, *Plant*,
      - Sensitive, *Animal*,
        - Irrational, *Brute*,
        - Rational, *Man*,
          - Plato,
          - Socrates,
          - Paul,
          - Peter,
          - John,
          - Richard.

which constitutes subaltern species, or *specific*, which constitutes the lowest species; the latter is that which is predicated of things differing in number, the former is that which is predicated of things differing in species. Examples, *sensible* and *rational*.

2. *Property* also is either *generic*, which necessarily accompanies the essence of the highest or subaltern genus, and which is therefore said to flow and spring from that essence; or *specific*, which flows from the essence of the lowest species. The former, (generic property,) therefore, is predicated of one species and different individuals. Examples, *movable* and *visible*.[t]

Property, however, is otherwise said to be of four kinds: 1. That which applies to the species alone, but not to all of it; that is, to one species only, but not to all its individuals; as, *to a man to be a grammarian*. 2. That which applies to all the species, but not to it alone; as, *to a man to be a biped*. 3. That which applies to all the species, and to it alone

[t] For the difference between *differentia* and property, the reader may consult Whately and Huyshe.

but not to it at all times; as, *the being grey to a man.* 4. That which applies to all the species, to it alone, and at all times; as *risibility to a man.* It is this last kind of property which constitutes the fourth predicable.

Accident, since it is contingently joined to the essence, may either be present or absent, the essence of the subject remaining meanwhile untouched: to which, nevertheless, it sometimes adheres so tenaciously, that by thought alone it can be separated or removed from it; as, *the being a Mantuan from Virgil.*

Wherefore it is called *inseparable.* But that which can actually or really be separated, as whiteness from a wall, is called separable.[u]

§ 7. Of Division.

As a singular word is called *individuum*, so also a common noun may be termed *dividuum.* For he is by a metaphor, said to divide it, who

[u] *Accidents* may be distinguished from *properties* by the very definitions given of them. The latter belong *necessarily*, and, therefore, *universally*, to an essence; whereas the former are those qualities which do not *of necessity* belong to any essence, but are mere contingencies. *Huyshe.*

enumerates the different things signified by it. Thus he who says that *animal* is (that is that the word animal *signifies*) *man* and *brute*, is said to *divide animal* into *man* and *brute*.

Wherefore *division* is the distinct enumeration of the several things which are signified by a common noun, and it is analogous to the distribution of a whole into its parts.

Hence also the common noun itself is termed the *whole divided*, and the separate things signified by it *the parts* or *dividing members*: also the laws for dividing properly are determined to be three.

1st. Let the dividing members separately contain less[x] (that is, signify less) than the whole divided: for the whole is greater than the separate parts. 2dly. Let the dividing members conjointly contain neither more nor less than the whole divided: for the whole is equal to all its parts. 3dly. Let the members of the division be opposite, (that is, not to be

[x] The words "*minus contineant*," mean that each of the dividing members must be less *extensive* than the whole divided. For in logical division the dividing members are always more *comprehensive* than the totum divisum: though care must be taken that they be not so *extensive*. See note *r*.

mutually contained in each other,) for without distinction partition is useless.

§ 8. On Definition.

Definition (which is also thus called by a metaphor) follows division; the office of which (definition) is to assign conceptions and words, by which those things which we wish to be distinct from each other, may be known like the boundaries of fields, by their limits. And since these things ought to be better known and more obvious than the things defined, definition is commonly said to be, *a sentence explanatory of the thing defined:* I say, *a sentence*, that it may be distinguished from the noun: *explanatory*, also, for it also *expresses the signification* of the noun.

Definition is either *nominal*,[y] which lays open

[y] The *nominal definition* can be made by means of a word better known; as when I define *caballum*, that which is called by another name *equus* or *equum*, that which we call in English *a horse:* I define nominally also when I say that *Maro* is the same as *Virgil*, that *Naso* is the same as *Ovid.*

A *nominal definition* can also be made by the etymology of the word in such cases as the *use* of the word corresponds with the *etymon*, but not when they are totally different. Thus I may

the signification of the word, or *real*, which declares the nature of the thing. The *real*, again, is either *accidental*, (or *descriptive*,) which assigns those things which are accidental to the thing defined, (such as causes, effects, properties, and other things of that kind;) or *essential*, which assigns the constituting parts of the essence, Lastly, the *essential* is either *metaphysical*, (or *logical*,) which points out the genus and difference; or *physical*, which points out the physical parts of the essence; that is those parts which are *really* distinct: for the genus and difference are distinguished only in the mind.

For instance, *homo* is defined *nominally*, qui ex humo; *accidentally*, a two-legged animal without feathers; *metaphysically*, a rational animal; *physically*, a natural being consisting of an organized body and a rational soul.

The laws of good definition are three in particular.

define a *triangle that which has three angles; a quadrangle, that which has four:* in the same manner Aldrich has defined *homo*, qui ex humo.

The nominal definition, it must be observed, has not in itself any thing to do with the etymology of a word. On this point see Whately.

1. Let the definition be *adequate* to the noun defined; otherwise it does not explain the *definitum*. For that definition which is more limited than the noun defined, explains only a *part*, when the noun defined is a *whole*: that which is more extensive explains a *whole*, when the noun defined is only a *part*. 2. Let the definition be *of itself* clearer than the noun defined. I say, however, *per se*, because, *per accidens*, that may be less understood which is better known by its own nature.[z] 3. Let the definition be included in a just number of proper words: for from metaphors arises ambiguity, from too much brevity arises obscurity, and from prolixity, confusion.

[z] Thus when I say that *a horse* is *a neighing animal*, it is possible that the faculty of *neighing* may be less known even than *horse* itself.

END OF PART I.

CHAP. II.

Of the pure Categorical Proposition.

SECT. I.—*Conditions necessary to form a proposition: definition of a proposition.*—SECT. II. Division *of propositions; as to* substance, *into* categorical *and* hypothetical; *the categorical is subdivided into* pure *and* modal: *as to* quality, *into* affirmative *and* negative, true *and* false: *as to* quantity *into* universal, particular, singular, indefinite: *the verse containing these divisions is given.*—SECT. III. *The singular proposition proved to be equivalent in syllogism to the universal; the indefinite to the particular or universal, according to the* matter; *matter is defined; it is of three kinds,* necessary, impossible, contingent: *the universal affirmative proposition is typified by* A; *the universal negative by* E; *the particular affirmative by* I; *the particular negative by* O; *according to the verses,*

Asserit A; *negat* E: *universaliter ambæ.*
Asserit I; *negat* O; *particulariter ambo.*

It is proved that in A *the subject only is distributed; in* O *the predicate only; in* I *neither subject nor predicate; in* E *both.*—SECT. IV. *To propositions are incident,* OPPOSITION *and* CONVERSION: opposition *is defined; a diagram of*

opposition is constructed, and thence are deduced the four canons of opposition.—SECT. V. Conversion *is defined; it is of two kinds*, simple *and* by accident: A *can be converted only* by accident, E *either* simply *or* by accident, I simply, O *not at all, according to the verse, F Ec I simpliciter convertitur, EvA per acci.*

§ 1. WHAT A PROPOSITION IS.

THE second part of logic treats of *proposition* or *enunciation*, which is the sign of the second operation of the intellect, or judgment expressed in words.

Wherefore, to form a legitimate proposition, it is required,

1st. That, as to words, it be *a sentence affirming* or *denying*, which is its *essence.*

2dly. That, as to sense, it *should signify something true or false*, (that is, should say what the thing is, or what it is not,) which is necessarily joined to its essence, and consequently is its *property;* whence also it follows,

3rdly. That it must not be ambiguous; for thus it would be *more than one* sentence.

Neither, 4thly, must it be a solecism or unfinished; for then it would have no signification.

Therefore, finally, that will be regarded as a legitimate proposition, which, according to the common definition, is *an asserting sentence, grammatical and perfect, signifying something true or false, without ambiguity.*[a]

§ 2. The Species of Propositions.

Its divisions are various:

1st. The *categorical* proposition is that which declares absolutely; as, *man is risible.* The *hypothetical* is that which declares under some condition; as, *if a man is rational, he is risible; it is either day or night.*

That which the categorical proposition asserts is not connected with anything, subsisting as it were of itself: that which the hypothetical asserts, subsists under a condition. Whence also this division is said to be derived from the substance[b] of proposition; and by its members

[a] This definition is of a mixed nature, arising from a combination of the four preceding requisites for forming a legitimate proposition: however, "oratio indicativa," i. e. an asserting sentence, would have been a sufficient definition.

[b] "The *substance* of a proposition is the *character of its assertion;* i. e. whether the assertion be expressed absolutely or not absolutely, viz., conditionally; which are the only ways in which any assertion can be expressed." *Huyshe.*

an answer is returned to him who asks, *quæ est propositio ?*

The categorical is again divided into *pure* and *modal*. The *hypothetical* into *conditional* and *disjunctive*, etc. The *pure categorical* proposition, or the *prositio de inesse*, is that which merely affirms or denies ; that is simply declares that the predicate either is or is not (inesse) in the subject ; as, *man is an animal ; man is not a stone.* The modal proposition is that which asserts with *some mode* ; that is with a word expressing in what manner (modo) the predicate exists in the subject ; as, *it is necessary that a man be an animal* ; *it is impossible that a man be a stone.* At present, I treat of the *pure categorical* proposition, and of it alone ; intending to treat of the others elsewhere.

2nd. The *affirmative* proposition is that whose copula is affirmative ; as, *man is an animal ; not to advance is to retire.* The negative is that whose copula denies ; as, *man is not a stone ; no avaricious man is rich.*[c] A *true* proposition

[c] The definitions here given of affirmative and negative positions are not logical. *Huyshe.*

It may be observed, that a "proposition is called negative

is that which asserts what the thing is; as, *man is an animal.* The *false* proposition is that which asserts the contrary: as, *man is a stone.* And, since by means of these species a proper answer is returned to him who asks, *qualis est propositio?* (for they answer by the difference and property, which are predicated in *quale*,) these two divisions are said to be derived from the *quality* of proposition: the former from the *quality of the word*, or *essential* quality; the latter from the *quality of the thing*, or *accidental* quality.

3rd. The *universal* proposition is that which has for its subject a common term (with an universal sign, *all, no*, etc. and consequently) taken distributively for all the things signified by it. The *particular* proposition is that which

only when its *copula* denies." For, *not every* negative in a proposition constitutes a *negative* proposition, but that only which affects the copula. Thus, when I say, *Not to advance is to retire*, the proposition is affirmative, for the negation there does not affect the copula, but is a part of the subject *not to advance*, or *the act of not advancing;* concerning which subject, the *copula* affirms the predicate, *to retire.* Again, *That which is no animal is no man*, is an affirmative proposition, on account of the copula *is*; although both the subject and the predicate are negative words.

has for its subject a common term, (with a sign of particularity, *some*, *certain*, etc. and consequently) taken only for a part of its significates. The *singular* proposition is that which has for its subject a singular noun, (either *naturally* so, or, at least, made so by some sign,) as *Socrates reads: this man is learned.* The *indefinite* proposition is that which has for its subject a common term without any sign, and consequently of doubtful extent; for the form of words remaining the same, it may receive a different force of signification: as *man is an animal*, viz. *every man; man is learned*, viz. *some man.*

This division is derived from the *quantity* of proposition, for it is derived from the *number* of those things for which the subject is substituted; whence also by these species a proper answer is returned to him who asks, *quanta est propositio?*

This doctrine the schoolmen have embodied in the following verse:

Quæ? Ca. vel Hyp. Qualis? Ne. vel Aff.
Quanta? Uni. Par. In. Sing.[d]

[d] The following table will present, at one view, the different

§ 3. Of the Distribution of Terms.

In a syllogism, a singular proposition is equivalent to an universal; for its subject stands for every thing signified by it. *Socrates is a man*, is universal, because all that Socrates is, is only one. The quantity of an indefinite proposition is determined by the matter of the proposition, or the extent of connection between the extremes, which is of three kinds: 1. *Necessary*, when the extremes agree essentially. 2. *Contingent*, when they agree only accidentally. 3. *Impossible*, when they differ essentially. Whence the indefinite proposition is considered as universal, in impossible and

subdivisions of propositions, considered as to their substance, quality, and quantity.

- Proposition,
  - as to *Substance*,
    - Categorical,
      - Pure,
      - Modal.
    - Hypothetical,
  - as to *Quality*,
    - Negative,
    - Affirmative,
    - True,
    - False.
  - as to *Quantity*,
    - Universal,
    - Particular,
    - Indefinite,
    - Singular.

necessary matter, but as particular, in contingent matter.*

Wherefore as far as regards syllogism, the quantity of proposition is twofold: universal and particular. And note, that the universal affirmative has for its symbol (or representative) the letter A; the universal negative, E;

* The word *matter* is equivocal, signifying two different things; 1st. That of which the proposition is composed, viz. the *subject, predicate,* and copula; 2nd. That concerning which it treats, viz. the *real agreement or disagreement of the subject and predicate.*

Aldrich uses the word *matter* in the last sense only: it is of three kinds.

1st. *Necessary,* when the predicate is necessarily affirmed of the subject; as, *man is an animal.*

2nd. *Impossible,* when it is impossible for the predicate to be affirmed of the subject; as, *man is an ox.*

3rd. *Contingent,* when the predicate is such, that it is not necessary, although it is possible for it to be affirmed of the subject; as, *man is learned.*

In *necessary* matter, the affirmative propositions are always true, the negative ones are always false: thus, *man is an animal,* is true; *man is not an animal,* is false.

In *impossible* matter, the affirmative propositions are always false, and the negative always true: thus, *man is an ox,* is false; *man is not an ox,* is true.

In *contingent* matter, universal propositions are false, and particular propositions are true: as, *all men are learned, no men are learned,* which are false; *some men are learned, some men are not learned,* both of which are true.

the particular affirmative, I; the particular negative, O.

Asserit A, *negat* E; *universaliter ambæ*
Asserit I, *negat* O; *sed particulariter ambo.*

Anglice,

A *says*, and E *denies; both totally.*
I *says*, and O *denies; both partially.*

In an universal proposition, the affirming sign (A) distributes only the subject; the negative (E) distributes the predicate also. For in order that it may be true, that *every a is b*, it is sufficient that some certain *b* should agree with every *a*; but it is false that *no a is b*, if even *any one b* agrees with *any a*. By the same argument, in order that it may be true, that *some a is b*, it is sufficient if even *any b* agrees with *any a*; but it is false that *some a is not b*, unless *that a* differs from *every b*; consequently, in a particular proposition, no term is distributed except the predicate of the negative, which is always distributed.

Although, therefore, it may happen that the predicate should be distributed in an affirmative proposition, yet it is not so necessarily; but it happens so by accident, and by virtue of the thing signified, not by virtue of the sign.

But in laying down the laws of propositions, *that* only must be regarded which the structure requires, and not what the sense admits; for the former is essential and perpetual, the latter variable and uncertain.

Let this, therefore, be the general rule, that in the proposition A, the *subject* only is distributed; in O, only the *predicate*; in I, *neither*; in E, *both*.[f]

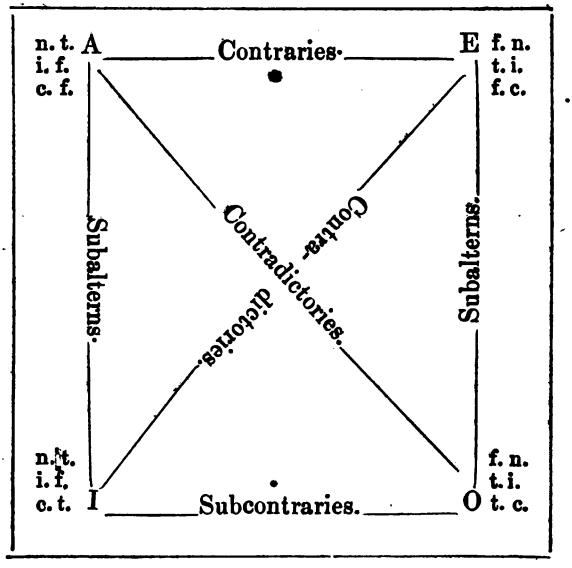
§ 4. Of the Opposition of Propositions.

Two propositions are incident *opposition* and *conversion*. Two propositions are said to be opposed, which, having exactly the same predicate and subject, differ nevertheless in the quantity or quality of the words, or in both.

The whole doctrine of opposition is collected and demonstrated from the adjoined scheme, in which A E I O are four prepositions, marked with their quantity and quality: which are *t.* or *f.* (*true* or *false*,) according as the matter is *n. i. c.* (that is *necessary*, *impossible*, or *contingent*,) which thing is evident enough from the definition

[f] This general rule may be simplified in the following manner: "*All universals distribute the subject, and all negatives the predicate.*"

itself of matter. With regard to *necessary matter*, because in it the extremes of the proposition essentially agree; with regard to *impossible matter*, because in it they essentially differ; with regard to *contingent matter*, because otherwise the matter would not be contingent.



By inspecting, therefore, this scheme, it will be easy,

1st. To enumerate the *species* of opposition,

which are usually four; *contradictory*, *contrary*, *subcontrary*, *subaltern*.

2ndly. To form the definitions of each: for instance, *contradictory opposition is that between* (A O, or E I, that is,) *two categorical propositions differing both in quantity and in quality. Contrary opposition is that between* (A E) *two universal propositions differing in quality*, etc.

3rdly. To deduce and demonstrate the four canons of opposed propositions in the following manner:

1. The contradictories A O, or E I, are not both true in any matter, nor both false in any; but in whatever matter one is true, the other is false.[g]

But it must be observed, that for contradiction four things are required; namely, to speak of the same thing, 1. *In the same manner*: 2, *As to the same part*; 3. *With reference to the same thing*; 4. *In the same time*: of which

g It must be remembered, that contradictory opposition is the most complete; for contradictories are opposed to each other not only in *quantity*, but in *quality* also. Hence in every kind of matter, if any proposition be *true*, its contradictor will be *false*, and vice versâ.

conditions if any one be wanting, *is* and *is not* might properly agree together. For instance, 1. The corpse of a man *is* and *is not* a man; for it *is* a dead man, and *is not* a live man. 2. Zoilus *is* and *is not* black; for he is *red* as to his hair, and *black* as to his face. 3. Socrates *is* and *is not* long-haired: for he *is* so, compared to Scipio: he *is not* so, compared to Xenophon. 4. Nestor *is* and *is not* old: for he *is* so, if you speak of his third life; he *is not* so, if you speak of his first.

2. The contraries A E are not true together in any matter; in contingent matter, they are both false: in the other kinds of matter, the one is true, the other is false; that is to say, in necessary matter, A is true, E is false; in impossible matter, E is true, A is false.

3. The subcontrary propositions I O in contingent matter are both true; in no matter are they both false: in necessary matter, I is true, O is false; in impossible matter, O is true, I is false.

4. The subaltern propositions A I or E O may be both true, and both false: or one true, and the other false. For in necessary matter, A I are both true; in impossible matter,

E O are both true; in the same case A I are both false; and in necessary matter, E O are both false; in contingent matter, (on account of A E being false, and I O being true,) A I or E O are one true, and the other false.

These canons of opposed propositions may, with many others, be demonstrated also in the following manner:

1. The contradictory propositions A O or E I cannot be either *both true* or *both false.* For what the one denies, the same does the other affirm of the same thing, and as to the same part. But this neither nature nor common sense can allow to take place. Therefore,

α. If a universal is true, the particular, which is contained under it, is true. And,[h]

β. If the particular is false, the universal, which contains it, is also false. For since the subject is distributed in the universal proposition, it happens that both in the universal and in the

[h] These two rules (α and β) are axioms, the truth of which is self-evident, as in the following examples: α. *Every man is an animal;* therefore, *Some man is an animal.* Again, β. *Some man is a dog,* is false; therefore, *Every man is a dog,* is also false.

particular, the same thing is said of the same thing, and as to the same part; it cannot, therefore, be said at the same time truly and falsely, (that is, it cannot be both affirmed and denied at the same time.)

The contraries A E cannot be *both true;* but in contingent matter they are both false. For first. Suppose the universal to be true, then by 1 *n.* the particular will also be true. Therefore, that proposition which contradicts the particular will (by rule 1) be false. But this is the contrary of the universal, (which was supposed to be true.)

Secondly. Let us take the universal in contingent matter, then by the matter itself it must be false, and its particular must be true: therefore that proposition which contradicts this particular, is (by rule 1) false. But this is the contrary of the given universal.

Thirdly. The subcontraries I O cannot be *both false;* but they may be *both true*, or *one true* and *the other false.* For they are the two contradictories of the two contraries, as is manifest in the scheme, comparing them crossways with the contraries. Wherefore (by rules 1 and 2) the subcontraries are not in any matter *false*

together; because the contraries are not in any matter *both true:* in contingent matter, the subcontraries are both true; because in this same matter the contraries are both false. But in impossible and necessary matter, the law for both is the same, that the one is true, and the other false.

The subalterns A I, or E O, may be *both true* or *both false*; or *one true*, and the *other false*. For, first. If the subalternant (that is, the universal) be true, the subalternate (or particular) is true, (by rule 1, *α*.) Secondly. If the subalternate be false, then the subalternant will be false, (by rule 1, *β*.) Thirdly. If the subalternant be false, then that proposition which contradicts it, will be true (by rule 1;) therefore the subcontrary of this contradictory, which is the subalternate of the original proposition, may (by rule 3,) be either true or false. Fourthly. If the subalternate be true, then its contradictory is false, (by rule 1.) Therefore the contrary of this contradictory, which is the subalternant of the original proposition, may (by rule 2) be either true or false.[i]

[i] These deductions with respect to the truth and falsehood of propositions in the different kinds of matter will be manifest,

§ 5. Of the Conversion of Propositions.

A proposition, whose extremes are transposed, is said to be *converted*. This may be done in many ways, but principally in two: 1. *Simply*, when both the quantity, as well as the quality, is preserved. I. *Per accidens*, when the quality being preserved, the quantity is changed.

FEcI simpliciter convertitur, *EvA per acci*: and the conversion is, in both cases, illative. For, first. Let E be true, for instance, *no A is B*, then (since both terms are distributed) every *A* differs from every *B*. Therefore conversely, (this is true,) consequently *no B is A*. Secondly. Let I be true,[k] then its contradictory E is false; therefore the simple converse of that contra-

without the aid of such demonstration as is used in the text, provided that the following rules (which may be found given above in note *e*, p. 32,) be borne in mind, viz.

In necessary matter,	Affirmatives,	true.
	Negatives,	false.
In impossible matter,	Affirmatives,	true.
	Negatives,	false.
In contingent matter,	Universals,	false.
	Particulars,	true.

[k] Suppose I, *Some man is an animal*, to be true, its contradictory, E, *No man is an animal*, will be false; therefore the converse of E, *No animal is a man*, will also be false; there-

dictory is also false; therefore that proposition which contradicts this simple converse, is true, (that is, the simple converse of the original proposition.) Thirdly. Let E be true; therefore its simple converse is also true; therefore the subalternate of this converse is also true; but this subalternate is the converse per accidens of the original proposition (E).[l] Fourthly. Let A be true; therefore its subalternate is also true: then the simple converse of this subalternate is also true; but this is the converse per accidens of the original (A).[m]

The other conversions, since they are partly ambiguous, partly false, and partly useless in the precepts of syllogisms, are neglected in logic.

fore the contradictory of the converse of E, that is, *Some animal is a man*, will be true; but the contradictory is evidently the simple converse of I.

[l] Let us suppose, *no man is a spirit*, to be true; then its simple converse will also be true; then the subalternate (by rule *a*) of that converse, *Some spirit is not a man*, (which is the converse by accident of *No man is a spirit*), will also be true.

[m] With respect to *conversion per accidens*, the reader may consult *Huyshe*.

END OF PART II.

CHAP. III.

Of the pure Categorical Syllogism.

SECT. I. *The difference between* material *and* formal *inference is shewn; a reason is adduced why the former is neglected in logic; a definition of* syllogism *is given.*—SECT. II. *What is meant by* antecedent, consequent, question, *and* conclusion, *is explained; the six canons of syllogisms are produced.*—SECT. III. *The twelve rules of syllogism are given and proved: they are all interwoven in a Latin tetrastic.*—SECT. IV. Mood *and* figure *defined: the sixty-four moods enumerated; these are reduced to twelve, useful in syllogism, the others being excluded according to some* one *of the rules of the* 3*rd sect.; the four figures of syllogism are shewn; the moods which each excludes are reckoned up: there remain in each figure six moods, the most useful of which have a name; these names are comprehended in five Latin verses.*—SECT. V. Reduction *is defined; it is of two kinds,* ostensive *and* per impossibile; *the mode of performing each is explained.*—SECT. VI. *The validity of reduction is shewn.*—SECT. VII. *The* enthymeme, *the* induction, *the* example, *the* sorites, *are defined.*

§ 1. What Syllogism is.

The third part of logic treats of *argument* or *syllogism*, which is the sign of the third operation of the intellect; namely, discourse or ratiocination expressed in propositions.

Wherefore, since discourse is the progress of the mind from one judgment to another, it is manifest that there are required in it, first, something whence discourse may arise; secondly, something else to which it may tend; thirdly, that those two things should so depend upon each other, that the one may be known by and through the force of the other: for otherwise, to know one thing after another, is nothing more than to judge repeatedly.

Now, that whence another thing is to be known, ought certainly itself to be first perfectly known; and therefore, being, as it were, known without discourse, is said *to antecede, to be laid down*, to be premised: and the rest is thence said to be *concluded, collected, inferred*, and *deduced*.

But *consequence* is of two kinds:

First, *material;* when the consequent is inferred from the antecedent by the force of the terms only, which is the *matter of the argument:* as, *man is an animal;* therefore, *he is a living being.*

Second, *formal;* when it is inferred on account of the mode itself of collecting, which is the *form of an argument;* as, *B is A, C is B;* therefore, *C is A.*[a] If the terms be changed, and their disposition (or arrangement) be preserved, the *material* will often deceive; the *formal* consequence always holds good: and therefore this latter only is regarded in logic; the former, as being changeable and deceptive, is neglected. These observations being understood, I imagine that it is sufficiently obvious

[a] As in the following example:

Every rational being has the power of laughing;
Every man is a rational being;

Therefore, *Every man has the power of laughing.*

This consequence is said to depend on the manner of inferring or collecting, for whatever are the terms, when disposed in the same manner, it holds good. As for instance,

Every animal is a substance;
Every dog is an animal;

Therefore, *Every dog is a substance.*

In which, *rational being, having the power of laughing, man,* the original terms, are commuted to *animal, substance, dog;* the same order being still preserved.

in what sense syllogism is defined; *a sentence, in which certain things* (premisses) *being laid down and granted, it is necessary that some other thing* (conclusion) *should result, besides and on account of those things which were laid down and granted.*

§ 2. The Syllogistic Canons.

There are many kinds of syllogism, of which one only is enough for the present purpose: that is, *the simple categorical syllogism*, viz. one which consists of *three pure categorical* propositions. Of which (propositions) the two first are the antecedent, the third is the consequent: which last, when regarded as not in the syllogism, (that is, as long as it remains in uncertainty,) is termed the *problem*, and the *question*.[b]

[b] Then, suppose I wish to prove the proposition,
Socrates is happy at the hour of death.
Until I have made the syllogism, it is termed the *problem*, or *question*. But when I have completed the syllogism,
Every wise man is happy at the hour of death;
Socrates is a wise man;
Therefore, *Socrates is happy at the hour of death;*
Then the proposition, "Socrates is happy at the hour of death," being inferred from the two given propositions, (*Every wise man is happy at the hour of death, Socrates is a wise man,*) is termed the *consequent.*

but in the syllogism, (that is, after the proof is made,) it is called the *conclusion*.

There are two extremes of the question, the subject and the predicate, concerning the agreement or disagreement of which inquiry is made, by the assistance of some other third term; and this is done on account of the following canons, on which the whole force of syllogism is founded.

1. Those terms which agree with some one and the same third term, agree with one another.[c]

2. Those terms, of which one agrees with, while the other differs from some one and the same third term, differs from one another.

3. Those terms which do not agree with some one and the same third term, do not agree with one another. For let there be two terms, A and C, and that no third term of the

[c] Two terms are said to agree with each other, when there does not exist in the one anything that is not found in the other: thus, *man* and *rational being* agree; *man* and *substance*, when taken in a distributed sense, do not; but *man* and *some certain substance* may perfectly agree: hence, as (Mr. Huyshe observes,) "regard must be paid to the *extent* in which the terms are used."

same kind can be assigned; then they have nothing common: consequently they do not agree with each other.

4. Two things, in neither of which exists any thing which is not found in the other, do not differ from each other.

5. Those terms which are not proved to agree with some one and the same third term, are not proved to agree with one another. For it may be doubted whether any such third term can exist; and this doubt is not removed (by proof.)

6. Those two terms of which it is not proved that one agrees with some one and the same third term from which the other differs, are not proved to differ; for it may be doubted whether any such third term can be adduced; that is, whether there can exist in the one something which does not exist in the other: and this doubt is not removed (by any proof.[d])

[d] The object of the fifth and sixth rules is, to shew the necessity of having some middle term in order to prove the agreement or disagreement of any other two terms: for if no third term be adduced, there may be a doubt whether any such term can *possibly* be brought forward; and until this doubt be removed, no conclusion can result. See *Huyshe.*

§ 3. The General Rules of Syllogism.

From these six principles, the structure of syllogism is thus deduced.

1. *In every syllogism there are three terms, and three only;* for every syllogism proves some conclusion: and in that conclusion there are only two extremes: and these are not proved to agree or differ, without some one, and only one third term.

Now, the predicate of the question is usually called the *majus extremum*, the *major term;* the subject of the question is called the *minor term:* but the third term, with which the extremes of the question are compared, is by Aristotle called the *argument*, but usually the *middle term;* for the predicate of the question is generally a term of more extensive signification than the middle; and the middle more extensive than the minor (or subject of the question.)

2. *In every syllogism there are three propositions, and three only:* two premisses, in which the middle term is separately compared with the extremes, (namely, the *major premiss*, in which it is compared with the major term; the

minor premiss, in which it is compared with the *minor term*;) and *one* conclusion, in which the extremes are compared with each other.

N.B. 1. That the major premiss is generally called simply the *proposition*; the minor, the *assumption*.[e] 2. Secondly, That the middle term does not enter the conclusion; otherwise, the same thing would be proved by the same; consequently there would not be three terms.

3. *Nothing is proved by a doubtful middle*; for, in this case, there is not brought forward some one and the same third term, with which either both the extremes may agree, or with which one extreme may agree, and from which the other may differ.

4. *A middle term not distributed is doubtful*: for let B be a common term, divisible into *b* and *C*; then *b* and *C* are opposite: and yet it

[e] In the syllogism,

All oriental histories are difficult to expound,
The Bible is an oriental history,

Therefore, *The Bible is difficult to expound,*

the two first propositions, taken together, form the *antecedent*; the last is the *question*, or *consequent*; the *middle term* is *oriental history*; the *major term* is *difficult to expound*; the minor term, *the Bible*: the first proposition is termed the *major*, or the *proposition*; the second is called the *minor*, or *assumption*.

may with truth be said, some B is b, and some B is C. Wherefore, some B is a doubtful middle term.

5. Wherefore, *the middle term must be distributed once, at least, in the premises: but it will be sufficient if it be but once distributed.*[1] For, first, to prove A is C, let C agree with some B, and A with every B; then A agrees with that same certain B with which C agrees: therefore there has been brought forward some one and the same third term, etc. Secondly. To prove A is not C, let C agree with some B, and A differ from every B; then A differs from that same certain B, with which C agrees: therefore there is brought forward, etc.

6. *The process from an extreme not distributed in the premises to the same distributed in the conclusion, is faulty.* For from *some*, does not follow *all*: for, let it be true, that *some a is b*, then it may also be true that *some a is not b*,

[1] As in the syllogisms,
Every king is some certain man,
Every man is mortal,
Therefore, *Every king is mortal.*
No soul is some mortal thing,
Every mortal thing is material,
Therefore, *No soul is material.*

(for the subcontraries may be true together.) Therefore, *that* may be affirmed of *some A*, which cannot be affirmed of *all A*. Again, let it be true that *some a is not b*, then it may be true that *some a is b*; therefore, that may be denied of *some a*, which cannot be denied of *all a*.[g]

7. *From negative premises nothing is proved.* For a third term is brought forward, from which both the extremes differ; but not one with which both may agree, or with which one may agree, and from which the other may differ.

8. *If one of the premises be negative, the conclusion also must be so*:[h] for the other premiss is affirmative: therefore one of the extremes differs from the middle, and the other agrees with it; consequently the extremes differ from each other: therefore the conclusion is negative.

g As in the faulty syllogism,

Some poor persons are never contented,
Those who are never contented are not deserving of relief.

Therefore, *No poor persons are deserving of relief.*

h As in the syllogism,

All labourers are persons useful to the state,
No persons useful to the state are contemptible,

Therefore, *No labourers are contemptible.*

9. Conversely, *If the conclusion be negative, one of the premises will also be so.* For the extremes differ from each other; therefore one of them agrees with the middle term, and the other differs from it; hence one of the premises is affirmative and the other negative.

10. *With particular premises nothing is proved.* For one of the premises must be affirmative: then in it the middle is not distributed; therefore it must be distributed in the other; therefore that premiss in which the middle is distributed, will be negative; then the conclusion will be negative; and its predicate will be distributed, which was not distributed in the premiss; for it was either the other term of the affirmative premiss, or the subject of the negative; but neither of these is distributed.

11. *If one of the premises be particular, the conclusion also is particular.*[1] For, first; let one of the premises be particular affirmative: then in it neither its extreme nor the middle is

[1] As in the syllogism,

Some of the English laws are laws too severe,
All laws too severe are unjust laws,
Therefore, *Some of the English laws are unjust laws.*

distributed; hence the middle term is distributed in the other, which also is universal; and let it be, first, affirmative; then, in this premiss, the middle term is the subject, and the extreme, which is compared with the middle, is not distributed: therefore neither of the extremes is distributed in the premises; hence neither can be distributed in the conclusion: consequently the conclusion is particular affirmative. Secondly, let the universal premiss be negative; then the conclusion is negative; but it must have one extreme not distributed; therefore it is particular negative.

Secondly. Let one of the premises be particular negative: then the other is universal affirmative; therefore, in the premises, two terms only are distributed; hence the conclusion has one term not distributed; consequently, as it is negative, it must be particular.

12. *If the conclusion be particular it does not necessarily follow that one of the premises is particular.* For it may happen that the subalternate may suffice for my purpose, when the subalternant might be inferred: and, since they are both true, it will be allowable to infer either. Although, strictly speaking, this mode of arguing

is not accurate; for the truth of the subalternate is not deduced immediately from the premises, but from the subalternant.

The following tetrastic comprehends the general rules of syllogism.

Distribuas medium ;[k] nec quartus terminus adsit :
Utraque nec præmissa negans ; nec particularis
Sectetur partem conclusio deteriorem ;
Et non distribuat nisi cum præmissis, negetve.

ANGLICE.

The middle distribute; no fourth term give :
Make not both prem : partic : or negative :
O' the weaker side let the conclusion fall,
And ne'er distribute nor deny at all :
Unless by chance it happen that you know
First in your premises it was done so.

---

[k] *Distribuas medium*, fifth rule : *nec quartus terminus adsit*, first rule : *utraque nec præmissa negans*, seventh rule : *nec particularis*, tenth rule : *sectetur partem conclusio deteriorem*, ninth and eleventh rules : *et non distribuat nisi cum præmissis*, sixth rule : *negetve*, eighth rule.

The conclusion is said to follow the weaker part, the "deteriorem partem ;" that is to say, if one of the premises is negative it is negative also ; if particular, it is particular also.

§ 4. The Moods of Syllogisms.

It remains to inquire, by means of these rules, in how many ways three pure categorical propositions may be *combined*, so as to form a syllogism. In which inquiry two things are to be considered.

First. The *mood*, or proper determination of the propositions according to quantity and quality.

Secondly. The *figure*, or proper disposition of the middle term with regard to the parts of the question.

The moods are in all sixty-four. For, as has been shown above, four propositions only are used in syllogisms A. E. I. O. Wherefore the major in the syllogism may be conceived as of four different kinds only: and to each major may be joined only four different minors; there may be then sixteen pairs of premises: and to each pair of premises four different conclusions and no more may be given; there are, therefore, sixty-four moods of syllogism.[1]

[1] This is a mere arithmetical calculation; for the number of combinations which can be made of four things taken three and three together is 64; since $4 \times 4 \times 4 = 64$.

AAA. AAE. AAI. AAO.* AEA. AEE. AEI. AEO. *AIA. AIE. AII. AIO. *AOA. AOE AOI. AOO.
EAA. EAE. EAI. EAO. *EEA. EEE. EEI. EEO. *EIA. EIE. EII. EIO. *EOA. EOE. EOI. EOO.
IAA. IAE. IAI. IAO. *IEA. IEE. IEI. IEO. *IIA. IIE. III. IIO. *IOA. IOE. IOI. IOO.
OAA. OAE. OAI. OAO. *OEA. OEE. OEI. OEO. OIA. OIE. OII. OIO. *OOA. OOE. OOI. OOO.

Sixteen of these are excluded by the seventh rule, as having both premises negative, viz. EEA. EEE. EEI. EEO. *EOA. EOE. EOI. EOO. *OEA. OEE. OEI. OEO. *OOA. OOE, OOI. OOO.

Twelve by the tenth rule, as having particular premises, viz. IIA. IIE. III. IIO. *IOA. IOE. IOI. IOO. *OIA. OIE. OII. OIO.

Twelve by the eighth rule, as having one of the premises negative, but not the conclusion, viz. AEA. AEI. AOA. AOI. *EAA. EAI. EIA. EII. *IEA. IEI. *OAA. OAI.

Eight by the eleventh rule, as having one of the premises particular, but not the conclusion, viz. AIA. AIE. AOE. *EIE. *IAA. IAE. IEE. *OAE.

Lastly, four by the ninth rule, because the conclusion is negative, without either of the

premises being so,[m] viz. AAE. AAO. AIO. *IAO.

There are therefore excluded in all fifty-two moods=16+12+12+8+4, of which many are contrary to more than one rule,[n] although one only has been pointed out.

There remain (64—52=) twelve moods useful in syllogism; to wit,

AAA. AAI. AEE. AEO. AII. AOO. *EAE. EAO. EIO, *IAI. IEO. *OAO.

§ 5. The Figures of Syllogisms.

The figures of syllogisms are four; for the middle term, which compared with both extremes, is either, first, The subject of the major premiss, and the predicate of the minor, and forms the *first figure*; or, secondly. The predicate of both premisęs, and forms the *second figure;* or, thirdly, The subject of both premises, and forms the *third figure;* or, fourthly, The predicate of the major premiss, and the subject

[m] In these combinations, the parts where a new minor premiss is taken, are marked with an asterisk.

[n] Such, for instance, as the mood OOA, which violates the seventh, eighth, ninth, tenth, and eleventh rules.

of the minor, and forms the *fourth figure*: all which (combinations) are shown in the following scheme.[o]

The disposition of three terms, viz. the *major A*, the *middle B*, the *minor C*, in figure:

1.	2.	3.	4.
B.A.	A.B.	B.A.	A.B.
C.B.	C.B.	B.C.	B.C.
C.A.	C.A.	C.A.	C.A.

Now, each figure excludes six moods: namely,

First. On account of the middle term not being distributed. The first figure excludes two, IAI. OAO. The second four, AAA. AAI. AII. IAI. The fourth two, AII. AOO.

Secondly. On account of the illicit process of the major.[p] The first figure excludes four, AEE.

[o] These combinations are comprehended in the following memorial lines,

Sub. præ. *prima, et* bis præ *secunda et tertia* bis sub.
Prædicat. *ac quarta, et tum postea* subjicitur.

Numerous examples of each figure are given in the following notes.

[p] That is, on account of an infraction of the sixth rule of

AEO. AOO. IEO. The second two, IEO. OAO. The third four, AEE. AEO. AOO. IEO. The fourth two, IEO. OAO.

Thirdly. On account of the illicit process of the minor.[q] The third figure excludes two, AAA. EAE. The fourth two, AAA. EAE.

There remains twenty-four moods certainly and necessarily conclusive, six in each figure.

I.

*b*A*r* Every B is A
*b*A Every C is B; *Therefore*,[r]
*r*A Every C is A.

syllogisms, page 51; an example of which may be had in the following faulty syllogism of the first figure, mood AEE.

A.. .....*Every* MAN *is a living being;*
E.....*No cow is a* MAN; therefore,
E.....*No cow is a living being.*

In the major of which, *living being* is not distributed, although it is so in the conclusion.

[q] By the same reason as that given in the preceding note: example in the third figure, mood AAA.

A.....EVERY MAN *is a rational being;*
A.....EVERY MAN *is a living being;* therefore,
A.....EVERY *living being is a rational being:*

In the minor of which, *living being* is not distributed, although it is so in the conclusion.

[r] Examples in *b*A*r*A*r* A.

Every person BELOVED BY GOD *is* happy;

*c*E	No	B	is	A
*l*A	Every	C	is	B; *Therefore,*[s]
*r*E*nt*	No	C	is	A.

*d*A	Every	B	is	A
*r*I	Some	C	is	A; *Therefore,*[t]
I	Some	C	is	A.

Every pious person is BELOVED BY GOD;
Therefore, Every pious person is happy.

All ANIMALS *are* endued with sense;
All men *are* ANIMALS;
Therefore, All men are endued with sense.

[s] Examples in *c*E*l*A*r*E*nt*.

No ENEMY TO GOD *is* happy;
Every wicked man *is an* ENEMY TO GOD;
Therefore, No wicked man is happy.

No ANIMALS *are* void of feeling;
All men *are* ANIMALS;
Therefore, No men are void of feeling.

[t] Examples in *d*A*r*II.

Whatever is CONDUCIVE TO ETERNAL HAPPINESS *is* desirable.
Certain calamities *are* CONDUCIVE TO ETERNAL HAPPINESS.
Therefore, Certain calamities are desirable.

All MEN *are* endued with reason;
Some animals *are* MEN;
Therefore, Some animals are endued with reason.

*f*E	No	B	is	A	
*r*I	Some	C	is	B;	*Therefore,*[u]
O	Some	C	is not	A.	

A	Every	B	is	A	
A	Every	C	is	B;	*Therefore,*
I	Some	C	is	A.	

E	No	B	is	A	
A	Every	C	is	B;	*Therefore,*
O	Some	C	is not	A.	

II.

*c*E*s*	No	A	is	B	
A	Every	C	is	B;	*Therefore,*[x]
*r*E	No	C	is	A.	

[u] Examples in *f*E*r*IO.

Nothing CONDUCIVE TO ETERNAL HAPPINESS *is to be* rejected;
Some miseries *are* CONDUCIVE TO ETERNAL HAPPINESS;
Therefore, Some miseries are not to be rejected.

No MEN *are* destitute of reason;
Some animals *are* MEN;
Therefore, Some animals are not destitute of reason.

[x] Example in *c*E*s*A*r*E.

*c*A*m*	Every	A	is	B	
E*s*	No	C	is	B;	*Therefore,*[y]
*tr*E*s*	No	C	is	A.	

*f*E*s*	No	A	is	B	
*t*I	Some	C	is	B;	*Therefore,*[z]
*n*O	Some	C is not A.			

*b*A*r*	Every	A	is	B	
O*k*	Some	C is not B;			*Therefore,*[a]
O	Some	C is not A.			

No person in want of everything is happy;
Every person contented with his lot is happy;
Therefore, No person contented with his lot is in want of every thing.

[y] Example in *c*A*m*E*str*E*s*.

Every true friend helps with his purse his friend;
No miser helps with his purse his friend;
Therefore, No miser is a true friend.

[z] Example in *f*E*st*I*n*O.

No virtue is criminal;
Some pleasure is criminal;
Therefore, Some pleasure is not a virtue.

[a] Example in *b*A*r*O*k*O.

Every good person rejoices at the happiness of others;
Some envious person rejoices not at the happiness of others;
Therefore, Some envious person is not a good person.

E No A is B
A Every C is B; *Therefore,*
O Some C is not A.

A Every A is B
E No C is B; *Therefore,*
O Some C is not A.

III.

*d*A*r* Every B is A
A*p* Every B is C; *Therefore,*[b]
*t*I Some C is A.

*f*E*l* No B is A
A*p* Every B is C; *Therefore,*[c]
*t*O*n* Some C is not A.

[b] Example in *d*A*r*A*p**t*I.

Every man is mortal;
Every man is rational;
Therefore, Some rational being is mortal.

[c] Example in *f*E*l*A*p**t*O*n*.

No virtue is productive of misery;
Every virtue is an effect of labour;
Therefore, Some effect of labour is not productive of misery.

*d*I*s* Some B is A
A*m* Every B is C; *Therefore,*[d]
I*s* Some C is A.

*b*O*k* Some B is not A
A*r* Every B is C; *Therefore,*[e]
*d*O Some C is not A.

*d*A*t* Every B is A
I*s* Some B is C; *Therefore,*[f]
I Some C is A.

[d] Example in *d*I*s*A*m*I*s*.

Some wicked men are rich;
Every wicked man is miserable;
Therefore, Some miserable men are rich.

[e] Example in *b*O*k*A*r**d*O.

Some sciences are not to be sought after by pious men;
Every science is productive of honour;
Therefore, Some things productive of honour are not to be sought after by pious men.

[f] Example in *d*A*t*I*s*I.

Every person who commands his passions is a king;
Some persons who command their passions are poor;
Therefore, Some poor persons are kings.

*f*E*r* No B is A
I*s* Some B is C; *Therefore,*[g]
O*n* Some C is not A.

IV.

*br*A*m* Every A is B
A*n* Every B is C; *Therefore,*[h]
*t*I*p* Some C is A.

*c*A*m* Every A is B
E*n* No B is C; *Therefore,*
E*s* No C is A.

[g] Example in *f*E*r*I*s*O*n*.

Nothing that God asserts is false;
Such things which God asserts are beyond the human understanding;
Therefore, Something beyond the human understanding is not false.

[h] Example in *br*A*m*A*nt*I*p*.

Every one who envies hates also;
Every one who hates is a murderer;
Therefore, Some murderer is one who envies.

[i] Example in *c*A*m*E*n*E*s*.

All the miseries of life are temporary;
Nothing temporary is intolerable;
Therefore, No intolerable things are the miseries of human life.

*d*I	Some	A	is	B	
*m*A	Every	B	is	C;	*Therefore,*[k]
*r*I*s*	Some	C	is	A.	

*f*Es	No	A	is	B	
A*p*	Every	B	is	C;	*Therefore,*[l]
O*n*	Some	C	is not	A.	

*fr*Es	No	A	is	B	
I*s*	Some	B	is	C;	*Therefore,*[m]
O*n*	Some	C	is not	A.	

A	Every	A	is	B	
E	No	B	is	C;	*Therefore,*
O	Some	C	is not	A.	

[k] Example in *d*I*m*A*r*I*s*.

Some poor persons speak to the purpose;
Every person who speaks to the purpose is to be noticed;
Therefore, Some persons to be noticed are poor.

[l] Example in *f*Es A*p*O*n*.

No king is immortal;
Every immortal thing is a spirit;
Therefore, Some spirit is not a king.

[m] Example in *fr*Es I*s*O*n*.

No person who envies others is contented with his lot;
Some persons contented with their lots are poor;
Therefore, Some poor people do not envy others.

Barbara,[n] *Celarent*, *Darii*, *Ferioque*, prioris:
Cesare, *Camestres*, *Festino*, *Baroko*, secundæ:
Tertia, *Darapti*, *Disamis*, *Datisi*, *Felapton*,
Bokardo, *Ferison*, habet: quarta insuper addit
Bramantip, *Camenes*, *Dimaris*, *Fesapon*, *Fresison*.
Quinque *subalterni*, totidem *generalibus* orti,
Nomen habent nullum, nec, si bene colligis,
usum.[o]

§ 6. On the Demonstration of the Moods.

And from the first and second principle, it is sufficiently manifest that all these twenty-four moods are conclusive, for this reason, because in them the agreement or disagreement of their extremes is inferred certainly and necessarily.[p]

[n] The use of these names may be seen in the seventh paragraph of the following section.

[o] "Nec si bene colligis usum," according to the twelfth rule of syllogism, (section III.) which declares, that to draw a *particular* conclusion, when it might have been *universal*, is very unscientific, although not incorrect. On this point the reader may consult *Huyshe*.

[p] That the twenty-four moods we have given are necessarily conclusive, is proved by trying them by the twelve rules of syllogism, none of which do they violate: now, as these twelve rules depend upon the two postulates, "*Quæ conveniunt in uno aliquo eodemque tertio, ea conveniunt inter se*;" and "*Quorum unum convenit, alterum differt uni et eidem*

Which thing Aristotle demonstrates excellently in the following manner.

He first lays down a theorem, which the schoolmen call the *dictum de omni et nullo*, viz. "That which is predicated universally of another, (i.e. of a distributed term,) whether affirmatively or negatively, is in like manner predicated of all things contained under it."

This theorem being admitted, which is an axiom obvious of itself,) it is at the same time evident, that the four first moods of the first figure are certainly and necessarily conclusive. For their major premiss shews that the major extreme is predicated of the middle distributed; and the minor premiss shews that the minor extreme is contained under the middle.

tertio, ea differunt inter se:" [page 51] it follows, that the truth of the conclusions, inferred in these twenty-four moods, depends also on those two principles.

In the following sections (sixth and seventh) the same thing, namely, the truth of the inference in these twenty-four moods, is demonstrated in another manner, conformably to the method adopted by Aristotle. For this purpose, it is proved, first, that the four first moods of the first figure are necessarily conclusive. Secondly. That all those of the other figures are equivalent (that is, may be *reduced*) to one of those four, without affecting the conclusion: hence it must follow, that all the moods are necessarily conclusive.

Wherefore, the four above-mentioned moods want nothing by which the necessity of the conclusion may become evident, besides those things which are laid down in their premises. For all the others want some thing or things, which, although necessarily existing on account of the premises, nevertheless are not expressed in the syllogism. Hence Aristotle terms the former *perfect*, the latter *imperfect;* the schoolmen call them *direct* and *indirect;* because by the former one advances directly towards the conclusion, as it were to one's aim; by the others one may arrive at the same point, but one must first turn toward some thing else.[q]

[q] That is, to prove the necessity of their conclusion, they want some thing or things, which are implied, but not expressed in the premises. For instance, in the syllogism,

*f*E*s* No infidel will be saved through Christ,
*t*I Some of the Jews will be saved through Christ; *Therefore,*
*n*O Some of the Jews are not infidels;

to prove the conclusion true, it is necessary that we convert simply the major, and the syllogism then becomes

*f*E No person who is saved through Christ is an infidel;
*r*I Some of the Jews are saved through Christ; *Therefore,*
O Some of the Jews are not infidels;

in which the conclusion may be directly proved to be legitimate, by the "Dictum de omni et nullo." Now the converted proposition is implied, but certainly not expressed, in the original major proposition of the syllogism. See *Huyshe.*

We say, therefore, that the indirect moods are *perfected*, *recalled*, and *reduced*, when, by some direct mood, they (the schoolmen) demonstrate the force of their inference. And *reduction* is defined, the changing of an imperfect mood into a perfect one, whereby the necessity of the inference may become evident, though before not evident. Now this may be, when evidently (i. e. in the first figure) it is demonstrated by the force of the premises that the conclusion either, 1st, is such, or 2nd, cannot be otherwise. Hence reduction is either *ostensive* or *ad impossibile*.

The application of both these kinds of reduction to the moods which have a name, is indicated by the names of the moods themselves, made for this purpose by the schoolmen. For in these names the three vowels are so many propositions, having the marks of their quantity and quality. The initial consonants, B.C.D.F. denote that mood of the first figure to which the reduction is made. S.P. indicate that the proposition, which the vowel immediately preceding expresses, must in the reduction be converted. S. simply; P. per accidens. M. shews that the premises must be transposed. K. shews

that the reduction must be made *per impossibile*; i. e. that instead of the premiss, to the type of which it is attached, must be taken the contradictory of the conclusion.[r] These things being done as enjoined, there is obtained in the first figure, a conclusion, either the same as the given one, or inferring the same, or else the contradictory of the premiss, as in the following examples:

*c*E*s*	No	A	is	B
A*r*	Every	C	is	B; *Therefore,*[s]
E	No	C	is	A.

[r] These rules are conprehended in the following technical verses:

S vult *simpliciter* verti; P vero *per acci.*
M vult *transponi;* K *impossibili* duci.

[s] Thus, *c*E*s* No animal is an incorporeal being;
A All animals are incorporeal beings; *Therefore,*
*r*E No angel is an animal.

To prove the conclusion necessarily true, I reason in the following manner; if the premises are true, especially the major, its simple converse will also be true, viz. *No incorporeal being is an animal:* by the help of this converse, and the original minor, I obtain the same conclusion in *Celarent,* in which I know it must be true.

*c*E No incorporeal being is an animal;
*l*A All angels are incorporeal; *Therefore,*
*r*E*nt* No angel is an animal.

Reduced to,

*c*E	No	B	is	A	
*l*A	Every	C	is	B;	*Therefore,*
*r*E*nt*	No	C	is	A.	

*d*I*s*	Some	B	is	A.	
A*m*	Every	B	is	C;	*Therefore,*[t]
I*s*	Some	C	is	A.	

Reduced to

*d*A	Every	B	is	C	
*r*I	Some	A	is	B;	*Therefore,*
I	Some	A	is	C.	

*b*A*r*	Every	A	is	B	
O*k*	Some	C	is not	B;	*Therefore,*[u]
O	Some	C	is not	A.	

[t] Thus, DI*s* Some rich men are miserable ;
A*m* All rich men are envied ; *Therefore,*
I*s* Some envied persons are miserable.

In order to prove the conclusion ; by reduction, (i, e. by the application to the "Dictum de omni et nullo,") *s* shews that the major premiss must be converted ; *m*, that the premises must be transposed ; and the last *s*, that the conclusion must be converted, and then the syllogism will be in the first figure ; thus,

DA Every rich man is envied ;
*r*I Some miserable person is rich ; *Therefore,*
I Some miserable person is envied.

[u] *b*A All the faithful in Christ are saved ;

Reduced to,

*b*A*r*	Every	A	is	B
*b*A	Every	C	is	A; *Therefore,*
*r*A	Every	C	is	B.

§ 6. Of the Validity of Reduction.

The validity of ostensive reduction is shewn thus. From the premises of the syllogism to be reduced, are necessarily collected the premises of the reduced syllogism by the prescribed conversion: and from these premises, by the first figure, the conclusion of the reduced syllo-

*r*O*k* Some of the Jews are not saved; *Therefore,*
O Some of the Jews are not faithful in Christ.

k shews that the reduction is to be made *per impossibili*: according to the rule given in the text we shall then have,

*b*A*r* All the faithful in Christ are saved;
*b*A All the Jews are faithful in Christ; *Therefore,*
*r*A All the Jews are saved.

Now by the premises of the original syllogism, (which are admitted to be true,) we know the proposition, *All the Jews are saved,* must be false; consequently the conclusion of our last syllogism (Barbara) is false: therefore one of the premises must be so. But we know by hypothesis that the major is true; consequently the minor, *All the Jews are faithful in Christ,* must be false: its contradictory will therefore be true. But this (viz. *Some of the Jews are not faithful in Christ,*) is the conclusion of the original syllogism, which is thus proved to be true. On impossible reduction the reader may consult *Huyshe.*

gism is obtained; which will be either the conclusion itself of the syllogism which was to be reduced, or, by illative conversion, will become such.

The validity of reduction *per impossibile* is shewn thus. Since by the hypothesis the premises are always true, therefore the contradictory of a premiss is never true; therefore the contradictory of the conclusion will never be true: (for it is demonstrated in Barbara[x] that these, the premises and conclusion, are at the same time true:) hence the contradictory of the conclusion is always false; therefore the conclusion itself is always true.

§ 8. The special Rules of Figures.

It is clear from what has been said before

I. That simple syllogisms, certainly and necessarily conclusive, may be made in twenty-four moods, six in each figure.

II. And that by some one of these moods, any pure categorical conclusion may be proved;

[x] It must be remembered, that impossible reduction is only applied to *two* moods; viz., *Baroko* and *Bokardo*, both of which are reduced to *Barbara*.

namely, A by one mood, E by four, I by seven, O by twelve. And, again, in the first figure any conclusion may be deduced; in the second, all negatives, and those alone; in the third, all particulars, and those only; in the fourth, any conclusion, except A.

Finally. Of the premises, we see that in the first and second figure the major premiss is always universal; in the first and third the minor is always affirmative; in the second, one of the premises is negative; and other observations of this kind, which the names themselves of the moods sufficiently indicate.

And hence, by inspecting the scheme of the moods, it may be easily inferred with what kind of a middle term any pure categorical question may be proved. For instance, a question, A is proved in Barbara; with a middle term of which the predicate of the question is affirmed universally, and which is likewise universally affirmed of the subject of the question; and in like manner with the other moods.

Observe, however, that to bring forward a nameless mood, betrays a want of skill in disputation, for more is laid down in the premises than is necessary for the conclusion. Wherefore,

also, the nameless moods have not hitherto been numbered amongst the moods; although they cannot be denied, if at any time they be (through ignorance) employed.[y]

Observe, also, that the fourth figure is worse than the other three; for different reasons, but principally on this account, viz, because it predicates the middle term of the major, the major of the minor, and the minor of the middle, that is, the middle term uselessly of itself.

III. Amongst syllogisms are numbered other species of arguments, which are not, strictly speaking, syllogisms, and yet are not so faulty as therefore to deserve to be excluded; as, for instance, those in which some part of the argument is not brought forward, but which it is easy, by thought, to supply.

1st. *The enthymeme:* the antecedent of which consists of a proposition and a judgment; for judgment is a proposition in the mind: example, *man is an animal;* therefore, *he is a living being.* It is also called by Aristotle, *the oratorial syllogism*; and if the whole of its force be comprised in a single proposition only, he terms

[y] This alludes to the twelfth rule of syllogism; (see § 3 of this chapter.)

it *an enthymematic sentence:* both of these are by Quintilian called, *sententia cum ratione*; as, *since you are a mortal, bear not immortal hatred.* In order to form a syllogism, one of the premises is wanting in the enthymeme, but whether it be the major or the minor, is known by the question.

2d. *The Induction:* in which as much as is necessary is laid down about singulars, and afterwards the same is assumed about universals; as, *this, that, and the other magnet attracts iron*: therefore, *every magnet does so.* It is, therefore, a kind of enthymeme; namely, a syllogism in Barbara, whose minor premiss is suppressed.

3d. *The example:* (Aristotle's *oratorial induction*:) wherein what is laid down with regard to some known singular, is assumed with regard to some unknown singular: as *Sylla and Marius injured the republic;* therefore, *Cæsar and Pompey will injure it.* The minor, also, of the example is suppressed; wherefore, (as in the others,) I say, that the question is assumed; nor can any conclusion be drawn except from what is laid down, and from what is understood.

4th. *The sorites* is that in whose antecedent, from the regular series of the terms, each preceding term becomes the subject of the succeeding proposition, until, from the subject of the question one arrives at the predicate. For instance, *man is an animal; an animal is a living being; a living being is a substance;* therefore, *man is a substance.* Hence in the sorites there are as many syllogisms understood as there are intermediate propositions, (or, if you like, as many as there are intermediate terms in the antecedent,) whence it takes its name from a heap.[z]

5th. To the sorites is allied that sort of syllogism, one of whose premises is an enthymematic sentence; as, *no unjust man is to be loved; every tyrant being cruel, is unjust;* therefore, *no tyrant is to be beloved.* This syllogism, indeed, has not any peculiar name; but the antecedent of the enthymematic premiss is the *prosyllogism* of Aristotle.

[z] The name "sorites" comes from the Greek word σὸρὸς, "a heap." "A sorites is nothing more than a number of condensed syllogisms, which may easily be expanded, so as to be in the regular form: it does not require any reduction, for it is already in the *first* figure, although it may appear to be in the fourth, because the premises are transposed."—*Huyshe.*

6th. In this place we may, finally, mention that abridged mode of disputing, very commonly used by opponents, viz. the suppressing of the conclusion: since it is the question itself of which the respondent is not supposed to be ignorant.

THE END.

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